DOCUMENT RESUME

ED 250 842 EC 170 876

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TITLE Over-21: An Education Program for Severely Disabled Adults. Final Report.
INSTITUTION San Francisco State Univ., CA. Dept. of Special Education.
SPONS AGENCY California State Dept. of Developmental Services, Sacramento.
PUB DATE 30 Jun 83
CONTRACT CA-81-68120
NOTE 41p.; Funded by the California Department of Developmental Services. Appendix A which is lengthy and will not reproduce easily or clearly is available from Lori Goetz, San Francisco State University, 1600 Holloway Ave., San Francisco, CA 94132.
PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Continuing Education; *Multiple Disabilities; *Program Development; Program Evaluation; *Severe Disabilities; Young Adults
IDENTIFIERS Final Reports

ABSTRACT

The final report documents accomplishments of a project designed to establish a full time continuing education program for severely multiply handicapped young adults. The Over-21 project was further designed to establish a widely replicable, innovative, model educational program as an alternative to the traditional "day care" focus of most programs for this population. The first of three sections, section I, provides a brief narrative history of the project's first year, including reasons for its location on a college campus and for placing emphasis on natural cues and contexts for instruction, and information on cost and long term program support. Section II reports on progress for each of seven objectives, which touch on areas of program development, skill acquisition, parent and caregiver training, community awareness, inservice for staff and volunteers, and program replication. The final section, section III, presents both summative and formative evaluation data, including data on student acquisition of individualized education program objectives. Appended are a daily class schedule, a table of IEP content areas for 10 students, a sample instructional program, and a graph of performance. (CL)

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AN EDUCATION PROGRAM
FOR SEVERELY DISABLED ADULTS

ED250842

Over-21
Final Report
June 30, 1983

Department of Developmental Services Contract #81-68120

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Executive Summary

The first major goal of the Over-21 project was to establish a full time continuing education program for the most severely, multiply handicapped (SMH) young adults living in the east bay area. This goal has been accomplished. The program currently serves 20 students who have severe physical, sensory, or behavioral disabilities in addition to severe or profound retardation. The staff ratio includes one special education teacher credentialed in severe handicaps and 2 paraprofessionals per 10 students. The program runs Monday through Friday from 12:00 P.M. to 5:30 P.M. and all students attend full time. Of the 20 students in the program, 15 have never before been served in an adult day program (including 4 students previously placed at Napa or Sonoma State Hosptials), due primarily to the severity of their multiple disabilities. Of the remaining 5 students, 2 have come directly after leaving Development Center programs at age 22, and 3 have transferred from other programs that felt they could not adequately meet the students' service needs.

The second major goal of Over-21 was to establish a Widely replicable, innovative, model educational program that differed from the traditional "day care" focus of most programs for SMH students. This goal has also been accomplished. The program is located on the Laney Community College campus in Oakland, California and instruction occurs in a variety of age-appropriate, socially integrated, natural environments, including the cafeteria, restrooms, quad, sports facilities, campus mailroom, newspaper office, etc. Thus, the program provides social interaction with nondisabled peers at a level unprecedented in typical ADC (Adult Development Center) and DTAC (Day Training and Activity Center) settings. Additionally, the program provides ongoing, systematic, data-based instruction that results in measurable acquisition of functional, age-appropriate skills. Evaluation of classroom data from the first year indicates an average acquisition rate of 66% per 6 months for individualized instructional objectives. This rate is comparable to rates reported in model educational programs for school aged SH students. Over-21 is clearly a highly sucessful synthesis of special education, developmental services, community colleges, and state university resources.

The major problem currently facing the project is long term funding. The proposed long term funding mechanism in the PDF proposal was vendorization through the Regional Center of the East Bay (RCEB). Based upon an initial annual budget of $163,375, the per client/per month cost for 20 clients attending full time is $947. This was the requested vendorization rate. As of July 13, 1983, however, the rate reportedly assigned the program is $27.00 per client/per day ($540 - $611 per client/per month). Clearly, the long term future of the program is in jeopardy. Efforts are underway both 1) to complete the appeal process to DDS for a higher rate, and 2) to examine funding mechanisms through combined DDS, community college, and special educatino resources so that the model can be piloted and implemented on a statewide basis. Until adequate long term funding is assured, the future of the program is uncertain.

The following report is divided into three sections. Section I is a brief narrative history of the major issues that arose in the first year of program development. It is intended to summarize the year's activities and to provide guidelines for other service providers interested in developing similar programs. Section II reports progress by specific objectives found in Exhibit I, Contract #81-68120, Program Development Fund/Project Abstract. Section III reports on formal evaluation of the project.

I. Major Issues in Program Development

A) Using the community college campus. Laney College is a multiracial, multicultural college located in the heart of downtown Oakland, California. It is an urban campus that serves upwards of 10,000 full and part time students. Major divisions offering AA degree programs include Applied Technology; Business & Service Occupations; Communication, Arts & P.E.; Language Arts and Social Sciences; Mathematics, Sciences & Allied Health.

Students enrolled in the Over-21 program are young adults who, in addition to severe or profound retardation, have severe physical, sensory, or behavioral disabilities including cerebral palsy, seizure disorders, deafness or blindness, and autism. Their curriculum needs focus upon basic skill development in the domains of community, domestic recreational/leisure, and vocational functioning. The severity of their multiple disabilities suggests that they will require some form of support throughout their lives, i.e., they will not enter competitive employment, will require a supervised living situation, etc.

Rationale. Why locate a continuing education program for these students a community college campus? Traditionally, these students have either remained unserved in any kind of adult day program (e.g., Lindsay, Rosenberg and Sailor, 1982), or they have attended programs housed in self-contained, "handicapped-only" facilities isolated from the surrounding residential or business community (Wilcox and Bellamy, 1982).

The rationale for locating Over-21 at Laney College was threefold. First, from a practical perspective, the campus is entirely accessible. All classrooms, restrooms, athletic facilities, the cafeteria, bookstore, etc. can be reached and used by persons in wheelchairs. While the expenditure of modifying a single classroom or building might be feasible (although costly)

for a program, the cost of modifying multiple environments to make them all wheelchair accessible would be prohibitive. Use of an already accessible campus ensures safety, provides ready access to numerous natural teaching contexts, and avoids capital expenditures in a time when financial resources are particularly limited.

From a philosophical perspective, locating the program on a college campus is the logical choice for providing a socially integrated, age appropriate environment for young adults to continue their education. The rationale for integrating SH students into regular scool campuses and communities has been widely discussed in the educational literature (Brown, Ford, Nisbet, Sweet, Donnellan and Gruenewald, 1983). Documentation of the beneficial effects of such integration is also increasing. Variables affected by integration include positive attitude changes and icreasing acceptance of differences by non-handicapped (NH) students attending integrated schools (Voeltz, 1981, 1982; increased rates of social interaction between SH and NH peers at integrated sites (Anderson, Goetz and Haring, 1983) and preliminary evidence that integrated contexts facilitate motivation and learning rates in SH students (Sailor, Goetz and Pluma, 1982).

Locating Over-21 on the Laney campus is thus an attempt to extend the "best practice" of integration from the domain of the public schools to the domain of adult services, and numerous anecdotes document the integration process:

- During a site visit to the program, a potential student was walking across the campus with his mother, case manager, and the project director. The student was walking ahead of the group and as he rounded a corner, he bumped into a Laney student who said, "Hey, J.O.! How's it going?" and then did a 'Give me five' hand shake with J. The Laney student then greeted J.'s mother and walked on. He was J.'s swim instructor at a Saturday rec program. Both the mother and case manager repeatedly commented that they had "never expected J. to run into someone he knew" in the community who was neither a family member nor a developmentally disabled person. Both were thrilled.

- During a noon indoor rock concert, several Over-21 students were eating lunch outside the building. Two Laney students attending the concert spontaneously came outside and personally invited the Over-21 students to come in and dance with the crowd at the concert. All 3 Over-21 students then participated in the concert with minimal instructional support.

Reports such as these strongly suggest that integration is successful and has influenced the quality of life for both Over-21 students and the Laney student body as a whole.

Finally, from an educational and instructional perspective, using the college campus as a site enables students to learn functional skills in response to the natural environmental cues and contexts where the behavior should ultimately occur. Limited generalization, or the inability to transfer skills learned in one situation to a new situation is a common learning characteristic of severely and profoundly disabled persons (Brown, Nietupski and Hamre-Nietupski, 1976). Skills learned in one environment, such as the classroom, often must be retaught when they are required in a different setting, so that valuable instructional time is lost (Stokes and Baer, 1977). Using the campus as a classroom enables students to learn skills in the real environments where they must ultimately perform those skills. Thus, hand-eye coordination can be taught using a real paper towel dispenser in a real bathroom, or a real vending macine in a real cafeteria, rather than using a rote pegboard task at a desk in the classroom. The student not only learns a functional skill that will increase his independence, such as using a public bathroom sink, but valuable teaching time is also saved.

The value of using natural cues and contexts for instruction has been discussed in detail in the educational literature (e.g., Falvey, Brown, Lyon, Baumgart and Schroeder, 1980. In addition to providing numerous natural environments for learning functional skills, the community college site also directly influences curriculum development and use of age-appropriate materials

for instruction (Brown, Branston, Baumgart, Vincent, Falvey and Schroeder, 1979). Video games in the student union provide an alternative to infantile pull toys; use of lipstick rather than edibles as a reinforcer for a grooming skills program is prompted by observation of what nondisabled students do while on a break in the rest room between classes. Thus, the site not only facilitates the educational best practice of integration, but also the educational best practices of teaching functional, chronological age-appropriate skills in integrated, real life environments.

B) Finding students and starting the program. Filling the program with an initial group of 20 students required an extensive search and recruitment effort. Despite identification of nearly 50 potential students in the original PDF funding application, and despite support and publicity through the local regional center (RCEB), only 60% of the students were placed through traditional referral mechanisms. Eight of the twenty students (40%) were located and placed by project staff who made direct visits to local convalescent hospitals, group homes, and board and care homes with the specific aim of finding potential referrals. This search process was extremely time consuming, and the program did not reach 50% capacity until midway through the initial start up year.

How did these eight students "fall through the cracks" of the standard referral mechanisms? Tables 1 and 2 below suggest possible answers:

Table 1

Prior Placement	# Students	%
No prior placement in any adult day program (range: 2 yrs. to 12 yrs. without programs)	9	45%
Direct transition from Development Center programs	3	15%
Direct transition from state hospital	4	20%
Transfer from other adult program/wait list	4	20%
	20	100%

Table 2

Residential Placement	# students	%
Natural home/family	7	35%
Board and care home	8	40%
Convalescent home/hospital	5	25%
	20	100%

In terms of Table 1, all of the students who were not referred to the program fell into category 1: no prior placewment in any adult day program. For all the students in this category, the major reason cited for lack of prior placement was always the severity of their multiple disabilitities: these students were considered too low-functioning to qualify for entry criteria into any available day programs. In terms of Table 2, all of the not-referred students fell either into category 1 (natural home) or category 3(convalescent hospital). While inferences must be made cautiously, these data suggest that

the clients who are easily forgotten in the social service network are those whose lack of skills has kept them out of available services (e.g., the "lowest" functioning clients) for prolonged periods of time. In addition, among this group, those who are living in convalescent care environments and those in their natural homes appear to be equally under-referred. (One speculation is that those in convalescent settings may lack an advocate for services, while those in natural homes are assumed to be "OK" unless the parent is pursuing placement. Parents, in turn, at least in the Over-21 group, have often given up in despair after 8 or 10 years of failure to find a program that will accept their son or daughter.)

Tables 1 and 2 also suggest that the project was highly successful in meeting its goals of deinstitutionalization and community integration for the most severely multiply handicapped young adults. All four students transitioned from the state hospital (3 to board and care homes; 1 to his natural home) would not have left the hospital without placement in Over-21. No other program would accept them, and both the B and C settings and the natural home would not have accepted the client into their residence without daytime educational programming. Furthermore, of the 7 clients who were living at home, 1 parent had to quit work when her son graduated form the DCH in order to care for him during the day, and 3 parents were considering institutional placement if a day program could not be found.

Specific activities undertaken to recruit students, as well as discussion of the referral process, have been described in detail in prior progress reports. The goal of the data presented here is to document the continued need for PDF monies to support the start up of programs, particularly those aimed at serving the least skilled, most multiply disabled clients in a community based program. Without PDF support, so that staff could spend time actually finding

these hidden clients, nearly half of the students in the program would not have been referred or served, and half of these hidden clients would have remained in institutions and/or been referred from the community to an institutional setting. While these clients should theoretically have been referred through RCEB mechanisms, they in fact were not, and PDF funding was crucial to the process of placing them in an appropriate program.

C) Curriculum development and service delivery. The major difference between Over-21 and other adult programs for severely disabled students is the program focus upon continuing education. Rather than providing day care aimed primarily at maintaining current skills, Over-21 provides systematic, data based instruction aimed at acquisition of functional new skills which will increase the student's independence in numerous age-appropriate environments. A major reflection of this educational focus is the professional staffing pattern: one special education teacher credentialed in severe multiple handicaps and two classroom aides per 10 students. This ratio is different from the typical 1:4 ratio allocated to Adult Development Programs through DDS; additionally, utilization of professional staff trained in special education, rather than generic adult education, is almost unique among adult day programs serving severely handicapped persons.

The assessment, curriculum development, and instructional strategies used in the program are based upon the work of Brown et al. (1976-1982) and the work of Sailor and Guess (1983) in the field of education for SH students. As such, they represent current best practices in the field based upon documented effectiveness in both the experimental and applied literature. Over-21 has taken these practices and extended them to a new population: young adults.

The details of the IEP development process--generating individualized functional, age appropriate objectives through ecological inventories; writing an instructional program for each objective based upon specific instructional techniques such as errorless learning or prompt hierarchies; developing a program data sheet for use by all classroom staff; and monitoring progress on a minimum weekly basis through standard graphing procedures--have all been discussed in prior progress reports. To provide an example of how these processes actually work in the program, Appendix A includes both a daily classroom schedule and a complete working program plan for one project student.

The classroom schedule, which is organized by hour long time blocks and by each classroom staff person, reflects several major program features: use of multiple natural environments for instruction; use of a functional curriculum development strategy; and use of chronological age-appropriate materials in instruction. S_1, one of the staff persons, for example, carries out instruction in the following environments in the course of a typical school day: the cafeteria, women's locker room, the campus administration mail room, a restaurant or store, and the program classroom itself. The curriculum domains (within which individual objectives are targeted) include domestic functioning, community functioning, vocational functioning, and recreation/leisure functioning. Finally, the tasks and materials are functional (they will increase independence and social inegration) and appropriate for young adults: turning on a tape recorder, using a public bathroom sink, delivering a newspaper in a mail room.

Lest the classroom schedule appear to be an extended "field trip" opportunity, the IPP presented in Appendix A provides the backbone of instruction that actually occurs for each student in the course of a program day. Key program features reflected in this IPP include the following: individuall-

Classroom Schedule

TIME	STAFF S_1	S_2	S_3
11-12	DOMESTIC: lunch prep. (A, T, U) COMMUN: eat in cafeteria (A, T, U)	DOMESTIC/SOCIAL lunch prep. set table (C, D, H, W) eat clean up classroom	DOMESTIC/SELF HELP food prep. feeding/eating (V, S, B) quad
12-1	DOMESTIC: WOMEN toilet, grooming (V, T, C) locker room	DOMESTIC clean up, toilet (U, W, S) quad bathroom	DOMESTIC: MEN toilet, grooming (D, A, H, B) locker room
1-2	VOCATIONAL T Th: Deliver Tower Newspaper	VOCATIONAL M-F Bussing Condiments refilled Milk trays refilled Sweeping (D, A, T, W)	Break VOCATIONAL Motel room prep. (U, S)
2-3	MWF: Staining parcourse signs (C, H, D, V) campuswide	campus cafeteria Break	COMMUNITY: transportation off campus motel
3-4	COMMUNITY MW: Restaurant TTh: Store F: Laundromat (S, U)	COMMUNITY MW: Store Th: Restaurant F: Laundromat (T, D)	REC/LEISURE dominoes, cards, leather (C, H, V, A, W) F: C, H - laundry classroom
4-5	REC/LEISURE tape recorder, pinball (S, U, T, D) classroom	REC/LEISURE basketball, par course, frisbee (H, A, W, V) gym	INDIVIDUAL parallel bars visual acuity testing individual pull out

10 Students (A, T, U, C, D, H, W, V, S, B)

10-A

zation, so that a unique program plan is written for each student based upon the individual's skill needs and projected future environments; written teaching programs for each objective, so that all staff persons can consistently implement instruction and monitor progress; and systematic graphing procedures so that program staff have continuous, easily interpreted information as to whether learning is really taking place.

Taken together, the schedule of instruction and the sample IPP reflect a close and unique integration of the principles of community-based, normalized education and highly individualized, accountable instructional practices. As discussed in detail in the evaluation section of this report, the Over-21 project has not only implemented this innovative service model, it has also gathered data showing that this synthesis works and is accountable. This documentation is thus significant not only for the adult services community, but for all of the special education community as well.

D) Cost and long term program support. As specified in the original contract, the anticipated long term funding for the program was vendorization through Regional Center of the East Bay. Based upon the initial annual budget of $163,375, as funded by the State Department of Developmental Services (DDS), the per client/per month cost of the program is $947 for each of 20 clients. The program submitted a vendorization application for this rate on April 3, 1983.

On June 29, 1983, the program received verbal notification that the rate had been set at $27.00 per client/per day, with no payment made on days clients are absent from program. The rate is thus $540 - $611 per month/per client (with no absences). Clearly, the future of the program is in jeopardy, and resolution of the funding issue is urgent. Besides the obvious factors of

client and family need, termination of the program would be particularly ironic for the following reasons:

1) the initial DDS expenditure of $163,000 to start a new service will have been wasted;

2) the program serves clients who have never before been considered eligible for community placement;

3) the program represents a completely innovative, replicable model of utilizing community resources in service delivery for developmentally disabled adults;

4) the program is unique in its documentation of outcomes: measurable acquisition of functional life skills for each client.

Two steps are being taken to resolve the funding issue. The standard appeals procedure will be pursued contingent upon written verification of the rate. In addition, one alternative to funding solely through vendorization is shared jurisdiction of the program by adult special education education, community colleges, and developmental services. Support of the program solely through DDS fails to take into account the educational focus of the program, while allocation of the program solely to higher education fails to take into account the specialized service needs of this population. The program is actively pursuing a synthesis of these resources so that the original intent of the PDF contract can be fulfilled: piloting of a model project replicable throughout the state.

II. Progress by Objectives

The following objectives are taken from Exhibit I, Contract #81-68120, Program Development Fund/Project Abstract.

Program Objectives

1. During Funding Year 1982-1983, establish and implement a continuing education program for 20 severely and multiply developmentally disabled individuals, 6 hours/day, 5 days/week, 12 months/year (excluding holidays).

Objective complete (see Section I).

1.1 To select a facility which will foster normalization through social and physical integration with chronological age appropriate non-handicapped peers.

Objective complete (See November 1, 1982 progress report for discussion).

1.2 To hire the teachers, aides, and clerical staff to implement a continuing education program.

Objective complete as of February, 1983.

1.3 To provide minor physical modifications of room and toilet.

Laney College is an entirely accessible campus and there was no need for modification of the physical facility.

1.4 To obtain licensing.

Objective complete. (License included in November, 1982 progress report)

1.5 To obtain vendorization.

The vendorization application has been submitted and approved by RCEB as an ADC, vendor #14123. As of June, 1983, a rate has not yet been set by DDS (see Section I,D above).

1.6 To purchase age appropriate and physically adaptive furnishings, equipment, and educational supplies.

Objective complete.

1.7 To provide ongoing administrative and training support from existing San Francisco State University staff and graduate students.

Objective complete. Dr. Lori Goetz, instructor at SFSU and project coordinator, provided inservice to all project staff. Sandra Hurley, MA student at SFSU, completed her student teaching placement at the project. Pam Hunt, Ph.D. candidate at SFSU and UC Berkeley, provided inservice in her role as community contact person and job developer.

2. To establish an Advisory Committee consisting of parents, professionals, and representatives of the community to monitor the development of the above programs.

Objective complete (see August, 1982 progress report).

2.1 To select 14 members and obtain their consent to participate.

Objective complete. The current roster of board members is as follows:

Willa Lindsay (Chairperson), parent of severely multiply handicapped youth

Hod Gray, parent of severely multiply handicapped daughter

Dianna Morse, parent of severely multiply handicapped youth

Wayne Sailor, Ph.D., professor in special education, San Francisco State University

Loretta Day, MSW, LCSW, Oakland Unified School District

Joy Kaiser, M.A., licensed psychologist, Oakland Unified School District

Ann Ohren, MSW, LCSW, Alameda County Continuing Care Service Bureau

Bill Rosenberg, M.A., California Training and Resource Group

Rosalie Schubert, MSW, LCSW, Oakland Catholic Charities

Willie Mae Leroy, licensed board and care operator

Yvonne Chambers, licensed board and care operator

Kathy Doering, credentialed special education teacher and practicum supervisor, San Francisco State University

Connie Knight, parent of severely multiply handicapped student

2.2 To meet quarterly to assist the project director and project coordinator in the overall operation and policy formation.

Objective complete. Minutes from the March, April and May meetings are included in Appendix A.

3. To facilitate learning of home, community, leisure and vocational skills (including language, motor, self-help and social skills).

3.1 To assess each client's level of functioning in all curricular domains.

3.2 To prioritize objectives on the basis of present and future environmental needs.

3.3 To meet with parents, caregivers, and specialists to formulate the Individual Program Plan (IPP) for each individual.

3.4 To provide for the acquisition of no less than 5 functional skills objectives per month per client.

3.5 To review and modify objectives on the basis of contemporary teaching guidelines.

The November 1, 1982 and February 1, 1983 progres reports discuss in detail the assessment and IPP development strategies used in the program. Rather than repeating these discussions, a brief summary is presented below:

1) For each major curriculum domain (communication, domestic/self care, leisure/recreational, vocational, community living) a specific set of instructional objectives is developed in conjunction with the major care provider and case manager.

2) All objectives are stated as functional skills that will increase the student's independence and participation in the community as a whole; all objectives are taught using age appropriate materials in the context of natural, real-life environments. Each student has an average of 12-14 individualized objectives developed specifically for his/her educational needs.

3) For each objective an instructional program is written. Instructional programs specify when, where, what, and how to teach the skill to the client.

4) For each instructional program, the student's performance is scored and recorded on a daily basis using a daily data sheet. These daily performance scores are plotted onto a graph which is used to monitor and document progress toward achieving the instructional objective.

5) To evaluate program outcomes, an overall IEP acquisitino rate is calculated semi-annually (see Section III, Evaluation). Based on the initial program year, the current IPP objective acquisition rate is 66% per six months.

To clarify this process, Appendix A contains a sample of a complete program plan for one project student. The sample includes the student's objectives within each domain, the instructional program written for each objective, the data sheet used to record daily progress on each objective, and the graph used to summarize progress on each objective. Progress is summarized semi-annually by calculating the number of IPP objectives attained over a 6 month

period. The procedures for calculating this rate are described in Section III, Evaluation. Based on the first year's per- formance data, the current acquisition rate is 66% across curricular domains.

4. To provide parents, primary caretakers and in-home care providers (i.v.n.'s, attendants) with training and support to foster severely multiply handicapped individuals' maximum level of functioning independence and integration within the community.

4.1 To devise the curriculum for weekly community college courses geared for parents and other primary caregivers.

4.2 To arrange for a competent instructor to be hired by the community college.

4.3 To begin classes.

Objectives in progress. As described in the February 1, 1983 progress report, informal interaction with parents and care providers remains at a very high level. In terms of formal training, the project has served as a practicum site visit for both courses and workshops offered by RCEB to community care personnel. It is estimated that 80-100 local board and care operators and/or parents have toured the program in conjunction with training courses offered at the College of Alameda, and/or workshops sponsored by RCEB.

5. To provide the community with knowledge regarding severely multiply handicaped individuals in order to foster integration of these individuals within their own communities.

5.1 To make initial contacts with newspapers and local media.

5.2 To stimulate publication and production of no less than four newspaper, radio, or TV presentations.

Objectives complete. During this initial year, Over-21 was the subject of three local newspaper articles, one local radio talk show, and one TV talk show at Laney College. In addition, six formal presentations (including a slide show and narrative) were made to a variety of audiences including San Francisco State University classes, local Developmental Centers, and a state-

wide conference of the Association for the Severely Handicapped. The total audience reached through these presentations is estimated to be 200 persons. Finally, an estimated 150 local service providers and interested persons have participated in guided tours of the program. Knowledge about the project has thus been widely disseminated.

5.3 To provide opportunities for the public to interact with SMH students during community skills training.

Objective continuing (see November 1, 1982 progress report). As indicated in the schedule included in Section I, C, the project continues to provide a high level of opportunities for structured interactions with the public because the majority of instruction occurs in the context of integrated, age-appropriate, normalized environments.

6. To offer staff and volunteers ongoing inservice training to develop competencies to carry out the above objectives.

6.1 To conduct no less than 10 hours of training in conjunction with California Inservice Training for the Severely Handicapped prior to commencing classroom instruction.

6.2 To provide additional training as deemed necessary by staff requests, C.I.T.S.H., San Francisco State University, and the Advisory Committee.

Objectives complete (see November 1, 1982 and February 1, 1983 progress reports).

7. During funding year 1983-1984 replicate this program for an additional 20 individuals within the target area.

Objective not met. In the absence of information concerning the vendorization rate and long term funding support for the program, it has been impossible to make definitive plans for program expansion although program replication was clearly anticipated. (The program does maintain an active waiting list, however, and all of the individuals on the list are currently without any program at all.) See Section I, Part D, for further discussion.

III. Program Evaluation

A> Summative Evaluation

Quantifiable summative measures are difficult to establish for groups of students showing wide variation in their skill development and instructional needs. One determination of student progress in an instructional program can be made by tabulating the number and percent of instructional objectives mastered over a given period of time. For the Over-21 Program, objectives may be indexed directly from the student's IEP. Unfortunately, empirical benchmarks have yet to be established that would indicate that 70% objectives mastered over a year's duration would be a desirable outcome for the education programs of severely disabled adults. It may be unlikely that such percentage guidelines (e.g., 40% objectives mastered would be a poor individual or class outcome) will ever be established. To some extent, group or expected levels of mastery contradict the individual thrust of the IEP approach. Yet, it is useful in terms of individual or program evaluation to tally the number and percent of objectives mastered to document that the program has directly contributed to student growth.

The results of the tally-system evaluation of the students' acquisition of IEP objectives for the current program year are presented in Table 1. The number of IEP objectives mastered by each of the 11 students who have been enrolled in the program for 4 to 9 months duration is given. The objectives are categorized by curricular domain: communication, social, physical (including mobility), behavior, domestic, vocational, recreation and leisure, and community. In the tabulation, each objective is scored 1.0 if it is completely mastered. If part of the objective is completed, a score ranging between 0 and 1 is given; for example, if a student completes 3 steps on a 10-step task

analysis, a score of .3 is given. The total number of IEP objectives is then tabulated in each of the eight domains. In addition, the percentage of objectives mastered from the IEP is presented.

Strategy for determining the number of steps attained per objective. Objectives have been trained for varying lengths of time ranging from 3 to 9 months; therefore, before tabulations are completed of the number of objectives mastered by each student, an adjustment must be made to the number of steps attained per objective to equalize the training period across objectives. The strategy outlined below is used to adjust the number of steps attained by projecting the measure of skill acquisition to an 8 month training period.

NUMBER OF STEPS ATTAINED PER OBJECTIVE

Training Period	Action Taken
3 months or less	Do not include in the tabulation.
4 - 5 - 6 - 7 months	Project to 8 months.
8 - 9 months	No adjustment needed.

"Projecting" procedure

Example: Objective with 6 months training; 4 of 10 steps attained.

(1) Determine the number of steps attained each month.
Example: $\frac{4 \text{ steps}}{6 \text{ months}} = \frac{2}{3}$ steps per month.

(2) Subtract actual training period length from 8 months.
Example: 8 months - 6 months = 2 months.

(3) Determine the step adjustment by multiplying the number of steps attained each month by the training period difference (step 2).
Example: $\frac{2}{3}$ objectives x 2 months = $1\frac{1}{3}$.

(4) Determine the adjusted steps total by adding the results of step 3 to the unadjusted step total.
Example: 4 steps (unadjusted) = $1\frac{1}{3}$ steps (adjustment)

= $5\frac{1}{3}$ steps (adjusted steps total).

Table 3. I. E. P. Objectives Attained

Curricular Area / Student	Communication	Social	Physical (mobility)	Behavior	Domestic (self-care)	Vocational	Recreation & Leisure	Community
H.D.	1/100%	.4/40%	0	0	3/78%	1.6/53%	3.5/88%	2.6/85%
A.G.	1/100%	.1/10%	0	0	5.9/74%	1.4/45%	3.6/90%	3.5/70%
D.Y.	0	0	1/50%	0	3.5/70%	0	0/0%	.3/27%
R.T.	0	0	1/100%	0	0	1/100%	2/100%	1/100%
C.S.	0	0	0	0	0	0	1.8/90%	1/100%
G.P.	.3/28%	0	0	0	.4/8%	0	.7/67%	2.5/83%
D.W.	1/50%	0	0	0	7/78%	1.8/90%	7.3/81%	2.9/97%
J.P.	0	0	0	0	3.3/55%	0	1/33%	.4/20%
K.C.	2/100%	0	1/100%	0	9.8/65%	1/100%	1.2/39%	0
L.M.	0	0	0	0	4.3/86%	1/100%	2.2/55%	3/100%
G.W.	0	0	0	1/100%	3.3/83%	0	2.1/53%	.4/22%
TOTAL ATTAINED	5.5	.5	3	1	40.5	8	25.5	17.5
PERCENT ATTAINED	63%	25%	62.5%	100%	66%	81%	63%	70.5%

NOTE: In the IEP columns, the numerator indicates the number of objectives attained; the denominator indicates the percent of IEP objectives attained per curricular domain. 0 = no objectives were set for that domain or the objectives had been trained for 3 months or less; therefore, no percent was calculated in the IEP comumns.

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IEP Acquisition: Results

Table 3 shows that across all curricular domains, the average IEP attainment rate was 66%. In this eight month period, a total of 101.5 objectives were mastered, or an average of 9 objectives per student, or 1 objective per month per student. These results are comparable to those reported by federally funded model educational programs for severely handicapped students (Goetz, 1981) and reflect a highly a accountable program.

A second form of summative evaluation is the degree of contact between the program staff and the student's care provider/parents. Table 2 summarizes this information across all 20 students. As reflected in Table 4, over 50% of the parent/care providers have actually visited the program to observe directly. Considering the wide ranging service area, this figure reflects a larger degree of involvement and interaction with the key persons in the student's domestic environment.

B) Formative Evaluation

Calculation of IEP acquisition rates provides a method for summarizing information about the total program on an annual basis. In addition, however, the project also provides continuous documentation of IEP acquisition for each individual client. This documentation is in the form of performance graphs that are updated on a weekly basis to reflect the data gathered each day on client performance.

Figure 1 presents a sample skill performance graph for an Over-21 student. This student is a nonverbal, blind, severely developmentally disabled young man. The skill on the IPP is as follows:

> Given lunch items placed inside a paper bag and the signed-spoken cue to "Takeout", the student will be able to grasp the bag with one hand and use the other hand to reach in and pull out the item to a criterion of 80% accuracy on the designated daily trials for 2 out of 3 days.

Table 4: Number of Contacts (12 students)

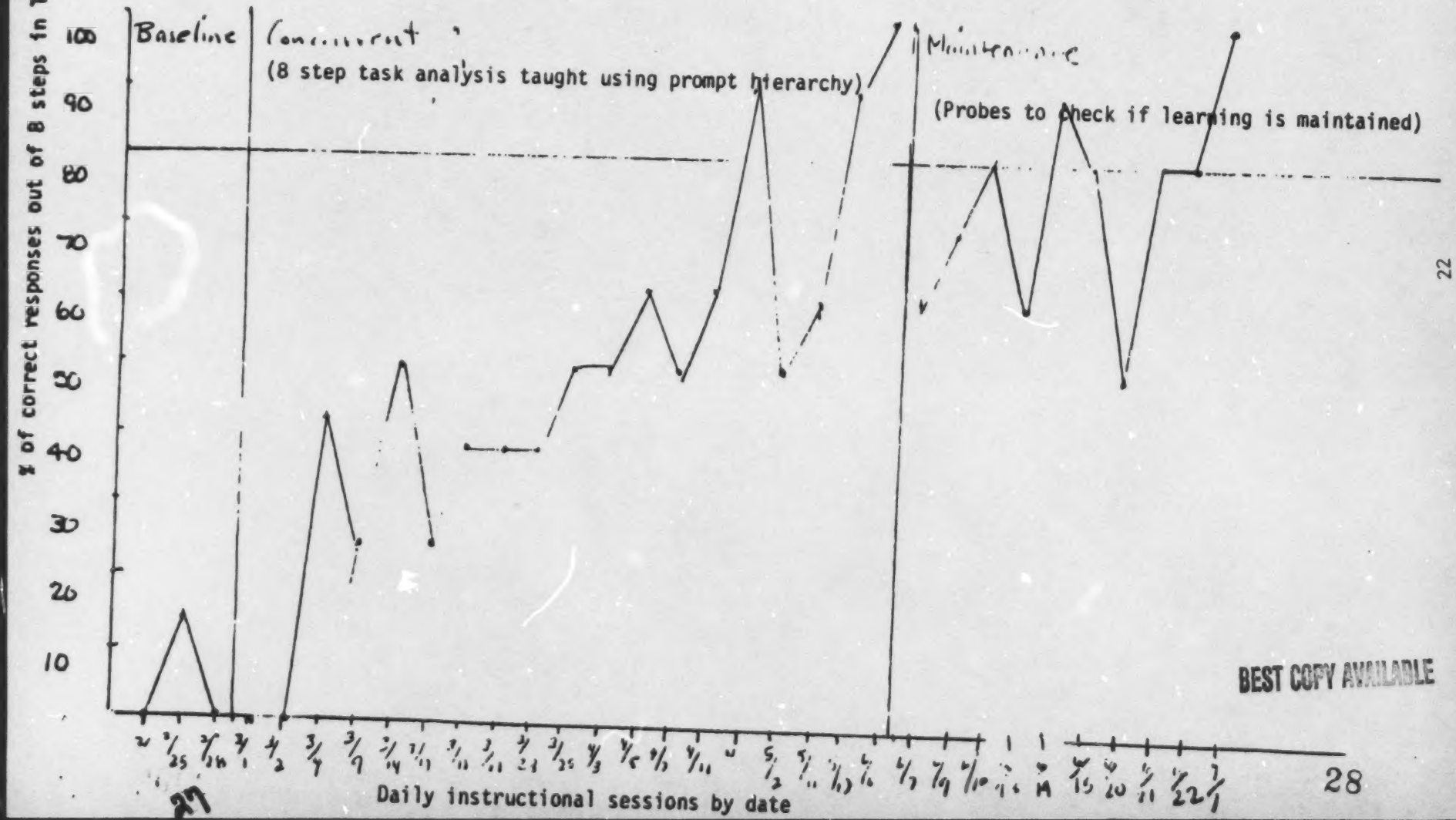
	Natural home (7 students)	Board and Care (8 students)	Convalescent (5 students)	Total
Natural parents visiting program to see student at least once	5/7	0/8	2/5	7/20
Board and care or canvalescent staff visiting program to see student at least once	--	4/8	0/5	4/13
Staff initiated phone contacts	x=1 per week	x=1 per week	x=1 per 2 weeks	
Parent/care provider initiated	x=1 per month	x=1 per month	x=1 per 6 weeks	
Staff writes in notebook to home	daily, all students	daily, all students	daily, all students	
Parent/care provider writes in notebook to school	daily	x=1 per week	x=1 per week	
Total Care Providers Making Direct Contact				11/20 =55%

FIGURE 1

G.P. Lunch Bag Program

80% accuracy for 2 out of 3 cons. sessions

OBJECTIVE: Given lunch items inside of lunch bag, and the signed-spoken cue, "Take out ", the student will grasp the bag with one hand and use the other hand to pull out lunch items, 80% on 2/3 days.



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The student's performance is recorded daily following an 8-step teaching program. The daily percentage correct is then plotted on the graph. This graph shows that the student initially had fewer than 20% of the skills during baseline. The student needed 19 days of instruction to acquire all 8 steps in the program. Once learned, the student maintained these skills for at least one month. These kind of data are gathered on each program for each student.

As shown in Appendix A, a comparable graph is maintained for each objective on a client's IEP, for a total of 9-12 graphs per client. Numbers of graphs for 20 clients make it prohibitive to include them all in the final report; however, all graphs are kept with the student's working IEP in the classroom and provide additional documentation of program success.

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(Modified) Appendix A

1) Daily class schedule
2) Table of IEP content areas for 10 students
3) Sample instructional program and graph of performance

TIME	STAFF S_1	S_2	S_3
11-12	DOMESTIC: lunch prep. (A, T, U) COMMUN: eat in cafeteria (A, T, U)	DOMESTIC/SOCIAL lunch prep. set table (C, D, H, W) eat clean up classroom	DOMESTIC/SELF HELP food prep. feeding/eating quad (V, S, B)
12-1	DOMESTIC: WOMEN toilet, grooming (V, T, C) locker room	DOMESTIC clean up, toilet (U, W, S) quad bathroom	DOMESTIC: MEN toilet, grooming (D, A, H, B) locker room
1-2 2-3	VOCATIONAL T Th: Deliver Tower Newspaper MWF: Staining parcourse signs (C, H, D, V) campuswide	VOCATIONAL M-F Bussing Condiments refilled Milk trays refilled Sweeping (D, A, T, W) campus cafeteria Break	Break VOCATIONAL Motel room prep. (U, S) COMMUNITY: transportation off campus motel
3-4	COMMUNITY MW: Restaurant TTh: Store (S, U) F: Laundromat	COMMUNITY MW: Store Th: Restaurant (T, D) F: Laundromat	REC/LEISURE dominoes, cards, leather (C, H, V, A, W) F: C, H - laundry classroom
4-5	REC/LEISURE tape recorder, pinball (S, U, T, D) classroom	REC/LEISURE basketball, par course, frisbee (H, A, W, V) gym	INDIVIDUAL parallel bars visual acuity testing individual pull out

10 Students
(A, T, U, C, D, H, W, V, S, B)

Table 13
Daily class schedule

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Range of content of IEP objectives for 10 students

*Based on the IEP's of the 12 students who were in the program for a minimum of 6 months.

CURRICULAR DOMAIN	IEP OBJECTIVE	# of IEP's which include the obj.
Communication	1. Communication book--across a variety of leisure, domestic, community, recreational, and vocational domains.	7
	2. Signing--across a variety of.....	3
	3. Speech--expressive, across a variety...	2
	4. Speech--receptive, across a variety...	2
Physical	1. Walking--across a variety of settings.	1
	2. Wheelchair mobility--across...	2
	3. Stair climbing--across...	1
Community	1. Laundry	4
	2. Money	7
	3. Restaurant	5
	4. Cafeteria	3
	5. Shopping	4
	6. Vending Machine	10
	7. Crossing the street	1
Vocational	1. Folding clothes	3
	2. Painting the par course stands	7
	3. Delivering the Laney paper	5
	4. Sweeping	4
	5. Clearing/wiping tables in the cafeteria	5
	6. Putting away silverware	1
	7. Washing dishes	2

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(cont.)

CURRICULAR DOMAIN	IEP OBJECTIVE	# of IEP's which include the obj
Vocational (cont.)	8. Potting plants	4
	9. Watering plants	1
	10. Cleaning a Laney classroom (moping, chalkboard, garbage cans, etc.)	1
Domestic	1. Food preparation	13
	2. Clearing the table	1
	3. Washing dishes	4
	4. Setting the table	1
	5. Combing hair	5
	6. Brushing teeth	12
	7. Toileting	7
	8. Shaving	1
	9. Washing face	9
	10. Washing hands	9
	11. Folding clothes	2
	12. Eating	3
	13. Dressing	11
Recreation/leisure	1. Basketball	7
	2. Jogging	4
	3. Par course exercise	4
	4. Leather work	10
	5. Puzzles	4
	6. Weaving on a loom	1
	7. Sewing	1
	8. Hooking a rug	3
	9. Pinball	5
	10. Taperecorder/radio	10
	11. Dominoes with a peer	3

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Sample instructional program including data collection sheet and graph of student's daily performance

STUDENT: K.C.

PROGRAM AREA: Mobility with wheelchair

OBJECTIVE: Using a long pull (12 o'clock position on wheel of wheelchair, full arm extension downward), K will propell her wheelchair a distance of 10 feet, 90% on 2/3 days.

RATIONALE: Currently, K. uses a short pull to propell her wheelchair and is very slow in transporting herself from one place to another. By learning to use a long pull, K. will increase her speed, time, and distance.

A program such as this was written for every objective on a student's IEP. Each student had 9-12 objectives on his/her IEP.

STUDENT: K.C. PROGRAM AREA: Wheelchair Mobility

BEHAVIORAL OBJECTIVE: Using a long pull (12 o'clock position on wheel of chair, full arm extension downward), K. will propell her wheelchair a distance of 10 feet, 90% on 2/3 days.

MATERIALS: Wheelchair, data sheet, pen/pencil.

SETTING: Laney College (cafeteria, quad, hallways, classroom, bathroom).

GENERAL PROCEDURES: Prompt/fade teaching strategy, beginning with a direct verbal plus full physical assistance, fading prompts as needed. Part 3 of program includes a time delay strategy.

CORRECTION PROCEDURE: Physically correct no/incorrect responses by placing K's hands on designated place on wheel of chair (12 o'cloc position).

REINFORCEMENT: Verbal praise, appropriate pat on back, reinforcement at motivating end point, ie., vending machine, leisure item, lunch, etc.

MEASUREMENT: Record (+) for correct responses (12 o'clock position on wheelchair, full arm extension downward), (-) for no/incorrect responses, and ⊕ for independent anticipated responses. Graph percentage of total number of (+)'s of daily trials and total percent of anticipated responses (⊕).

GENERALIZATION: Other settings, motivating end points, with other people.

NEXT OBJECTIVE: Same objective, but increase distance. Final objective(s) may include a time limit.

TASK ANALYSIS

TEACHER DOES	STUDENT DOES
To implement program, designate a motivating end point (vending machine, leisure item, lunch, bathroom, etc.) and have K. placed 10 feet from motivating end point.	
1) DV+FP (100% on 2/3 days) T. says "K, put your hands on the top of the wheel and push down." T. physically puts K's hands on 12 o'clock position of wheel, pushes down, arms fully extended. Repeat DV+FP each time, until K. has propelled her chair 10 feet.	1) K. will grasp designated area of wheel (12 o'clock position), pushing down with arms fully extended to propell wheelchair forward.

2) <u>DV+Pointing Prompt (90% on 2/3 days</u>.

T. says "K, put your hands on the top of the sheel and push down," while pointing to the designated area (12 o'clock position). Repeat DV+pointing prompt, until K. has propelled her chair 10 feet.

2) Same.

3) <u>IV+Time Delay (90% on 2/3 days</u>).

T. says "K, where do you put your hands?"

3a) 0 second.
3b) 1 "
3c) 2 "
3d) 3 "
3e) 4 "
3f) 5 "
Repeat IV until K. has propelled her chair 10 feet.

3) Same.

4) <u>Independent (90% 2/3 days</u>).

No verbal prompts.

4) Same

OGRAM: Mobility w/ wheelchair

Objective: Using a long pull (12 o'clock position on wheel of W.C. full arm extension downward K.C. will propell her wheelchair a distance of 10 feet. 90% on 2/3 days.

Cues/prompts Phase	Response	DATE: 11/14	11/15	11/17	11/21	11/22	11/28	12/1	12/5	12/6
) "Karen, put your hands on the top of the wheel & push down." =P put thru.	Grasps 12 o'clock position, full arm extension down.	+ + + + / − + − / 5/7	+ + + + / + + + − / 2/3	+ + − + / − + + / 6/7	+ + + + / + − + / 5/7	+ + − + / + − + / 6/7	+ − + − / + + − / 5/8	+ + + + / + + + / 7/7	+ − + + / + + + / 6/7	+ + + + / + + + / 2/3
		DATE:								
Prose 2 DV + pointing. Point to area on W.C.	Same	DATE: 12/9	12/12	12/16						
		− + − − / − − − / 1/7	− − − − / − − − / 0/7	+ − − − / − − − / 1/7						
		DATE:								
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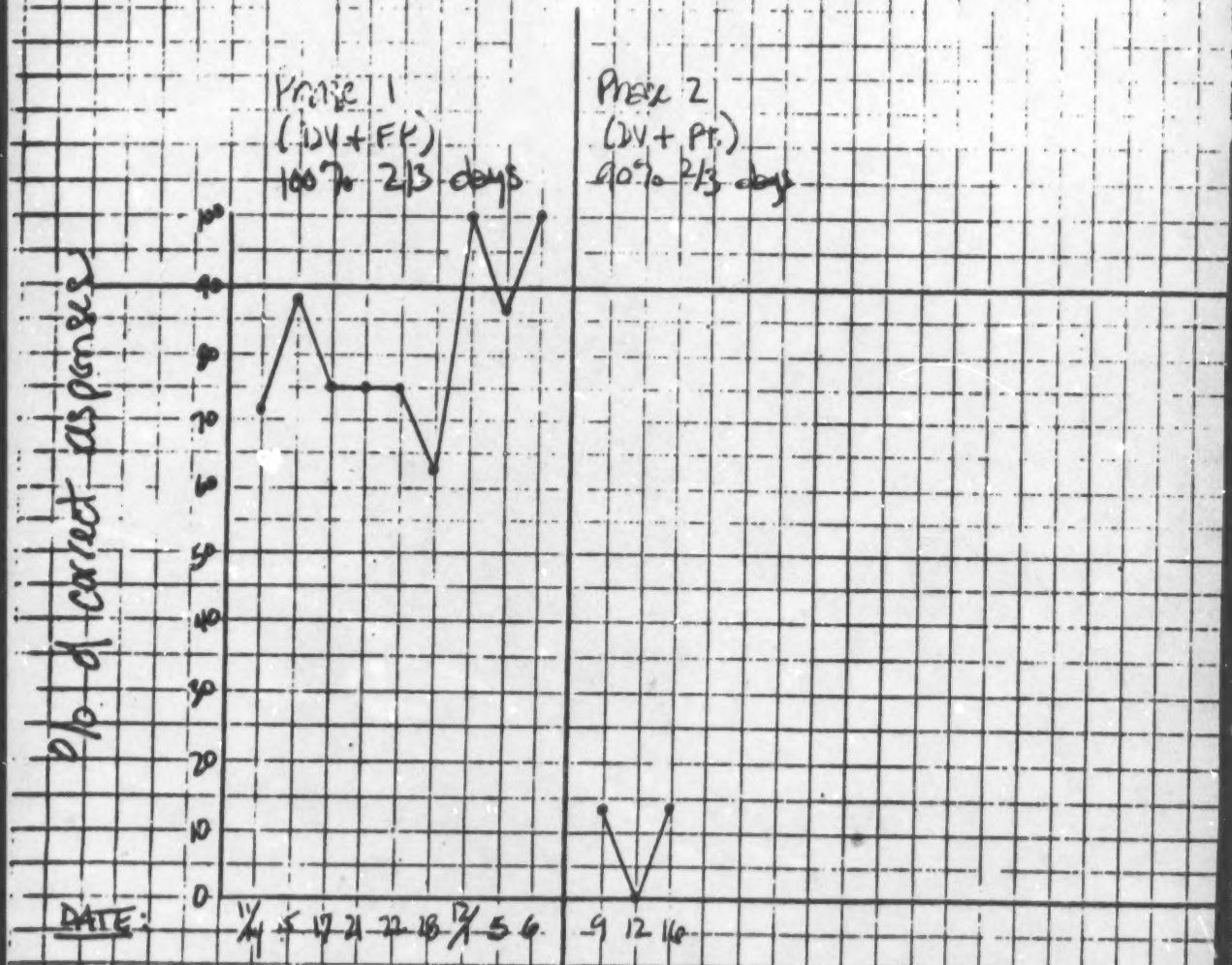
STUDENT: [illegible]

PROGRAM: Mobility w/ wheelchair



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